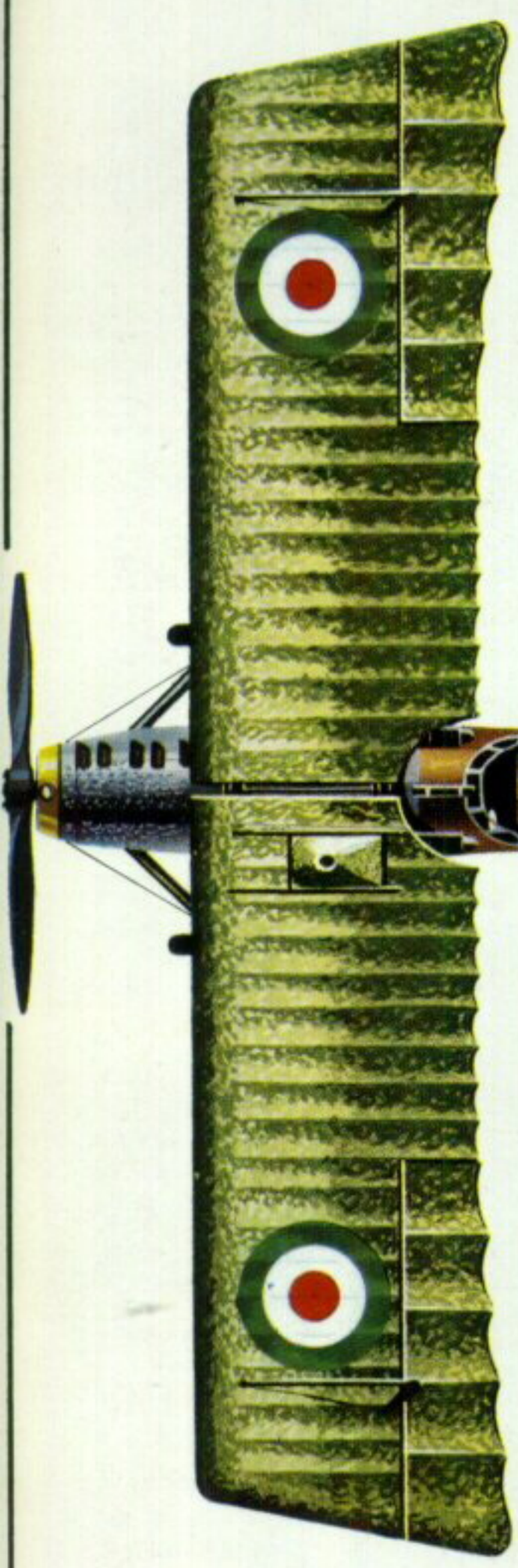
PROFILE PUBLICATIONS

The S.V.A. (Ansaldo) Scouts

NUMBER 61

TWO SHILLINGS

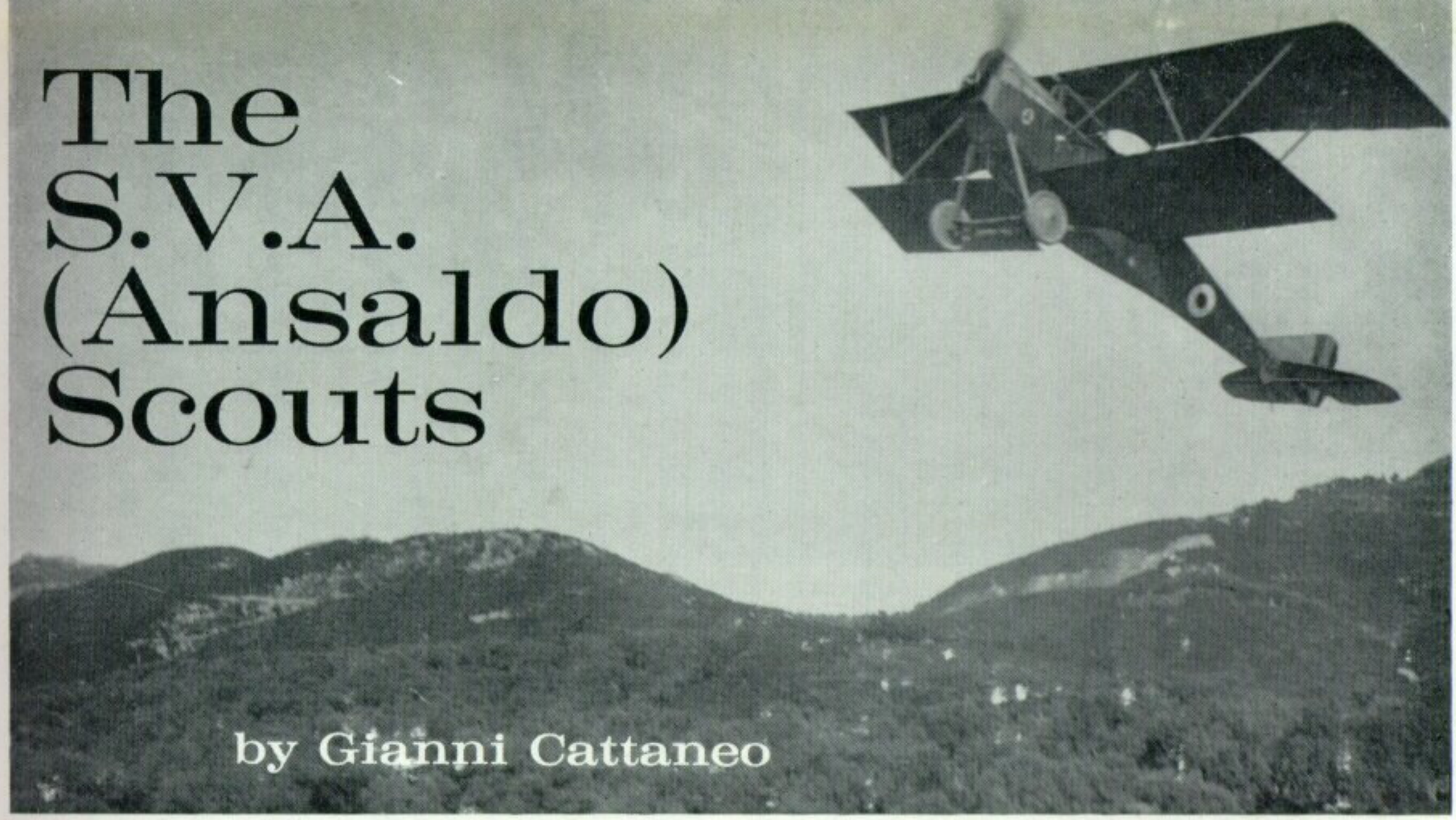


Lion of St. Mark emblem of 87° Sq.

S.V.A.5, serial 11779, of the 87° Squadriglia Ricognizione "La Serenissima", Aeronautica Militare, based at S. Pelagio, Italy, in July 1918.

The S.V.A. (Ansaldo) Scouts

by Gianni Cattaneo



The S.V.A. series were the most significant Italian designs of W.W.I, and were the forerunners of several historic aircraft of later years. Here, an S.V.A.5 climbs steeply from take-off; climb characteristics of the I.F.-engined variants were superior to both the S.E.5a and the Fokker D.VII. (Photo: Col. Cesar Milani)

On the 3rd March 1917, over the Italian airfield of Grosseto, the prototype of an aircraft that was to mark a significant step forward by the Italian aviation industry made its maiden flight. The pilot of the new machine, the then Flight Sergeant M. Stoppani, was immediately enthusiastic about the power, handling characteristics and speed of the delicate S.V.A.; and his response was echoed in the years that followed by the many pilots who were to ride the sleek biplane to fame as one of the best all-purpose aircraft of W.W.I, and the reliable instrument of many memorable exploits in the skies of the world in the years of peace. The S.V.A. was to continue in useful service into the 1930s, and some significant features of its design can be traced in machines which saw widespread service when war came to Europe once more.

Until 1916 the products of the Italian aircraft industry were not generally distinguished by any great originality of design or performance. There were a few notable exceptions, such as the Caproni bomber series; but in the main the industry was occupied with licence production of foreign designs, notably those of French origin. It was into this situation that the S.V.A. was born, the brain-child of two brilliant Technical Officers of the *Direzione Tecnica dell'-Aeronautica Militare* (Military Aviation Technical Directory) of Turin, R. Verduzio and U. Savoia. The most significant facet of the design was that it marked a progression from empirical experimentation to systematic estimates; for the first time, actual calculations of the foreseeable aerodynamic and structural characteristics of the projected aircraft were made from an early design stage. This was obviously an advance of the greatest importance to the development of aviation techniques in Italy.

The small design team was completed by Ing. C. Rosatelli, later to win international recognition as the long-time Chief Designer for the Fiat company, and Ing. G. Brezzi. The final proposals for the new type, then designated S.V., were laid before the directors of Soc. Ansaldo of Genoa, an engineering and manufacturing concern comparable in national prominence to Vickers in England and Krupps in Germany. However, well aware of the potential of the promising design, the D.T.A.M. decided to assume overall control of the whole construction programme; and what began as a private venture became a Government project of the widest scope. With what were, in effect, unlimited Government funds at their disposal, energetic direction, and full official co-operation, Ansaldo offered the best prospects for the development of a modern, efficient aeronautical section. Starting from scratch the company set up a new factory at Borzoli near Genoa in November 1916, designated *Cantiere 1*. A widespread expansion was undertaken; *Cantiere 2*, with an airfield adjacent, was set up at Bolzaneto; in September 1917 the former *Societa Italiana Transarea* plant at Turin was taken over as *Cantiere 3*; a plant for seaplane construction was built as *Cantiere 4* at La Spezia, and in the spring of 1918 the Company Pomilio was absorbed as *Cantiere 5*.

As stated above, the prototype flew for the first time in March 1917; and in the months that followed the newly-designated S.V.A. (Savoia-Verduzio-Ansaldo) was subjected to a rigorous test programme in Italy and abroad. The designers had intended to

An S.V.A.4 of the 87° Sq. Ric. "La Serenissima" *on a front-line airfield in 1918. Note the bomb clips on the fuselage sides under the cockpit.* (Photo: Col. Cesar Milani)

The S.V.A.4 of one of Italy's outstanding reconnaissance pilots, Captain Natale Palli, taxis for take-off. (Photo: Col. Cesar Milani)

create one of the fastest fighter aircraft of the time with exceptional range capability; it was conceived as a fighter, and there is no doubt that its subsequent assignment to the scout/reconnaissance-bomber rôle was a drastic modification to the original specification. The reasons for its rejection as a pure fighter are somewhat obscure; but it seems that undue weight was given to its lacking the extreme manœuvrability of contemporary machines such as the SPAD XIII and Hanriot HD I. Fighter pilots did not immediately appreciate the advantages of its superior range and speed. The S.V.A. prototype was in fact 30 m.p.h. faster than any machine of either side in service on the Italian Front at that time; and it was this speed, combined with load-carrying capacity, range and simplicity of structure that made the S.V.A. such an outstanding fast reconnaissance aircraft. It could dispense with fighter escort, accept combat with fighters on reasonably equal terms, and break off combat at will by utilising its superior speed and good climb characteristics.

During its long career the S.V.A. underwent many modifications and appeared in numerous sub-types, the exact differentiation of which is often obscure and contradictory. The prototype was followed by a version slightly modified in weight and installations, designated S.V.A.4. This gave place to the first major production variant, the S.V.A.5. This single-seat reconnaissance machine was characterised by the peculiar arrangement of wing struts, the Warren truss, that was to be the hall-mark of later Ansaldo machines before passing on to the Fiat biplane fighters designed by Rosatelli in the early 1930s. A structural description of the S.V.A.5 is thus generally pertinent to all later series except in particular modifications which will be cited below.

THE S.V.A. DESCRIBED

The structure of the S.V.A. presents an example of skilful engineering intended to ensure speed, simplicity and economy during production. It was a clean-contoured biplane of unequal span, with a long, slim fuselage of simple and robust construction. The two upper wing panels met over the fuselage centreline, while port and starboard lower wings were attached to the fuselage at the lower longerons. Both wings were of conventional two-spar and rib construction, but the airfoil was unusually thin; at high speeds the trailing edge tended to flatten out, decreasing drag. In this manner it was possible to achieve a

An operational S.V.A.4. Note that the starboard machine gun has been removed; this was often done when reconnaissance cameras were carried. (Photo: Col. Cesar Milani)

An S.V.A.4 with modified windscreen. (Photo: the author)

The S.V.A.5 prototype; notice the different windscreen style and the unvarnished finish. (Photo: Imperial War Museum)

mild "flap" effect at low airspeeds, with a bonus in heavy-load take-off and landing characteristics. Unbalanced ailerons were fitted in the upper wing only. Interplane bracing was in the form of streamlined steel-tube struts in the Warren truss pattern, absorbing all lift and landing stresses. Each strut bay was wire-braced within itself to preserve incidence but there was no bracing between bays. The most unusual feature of the S.V.A. was the change in fuselage cross-

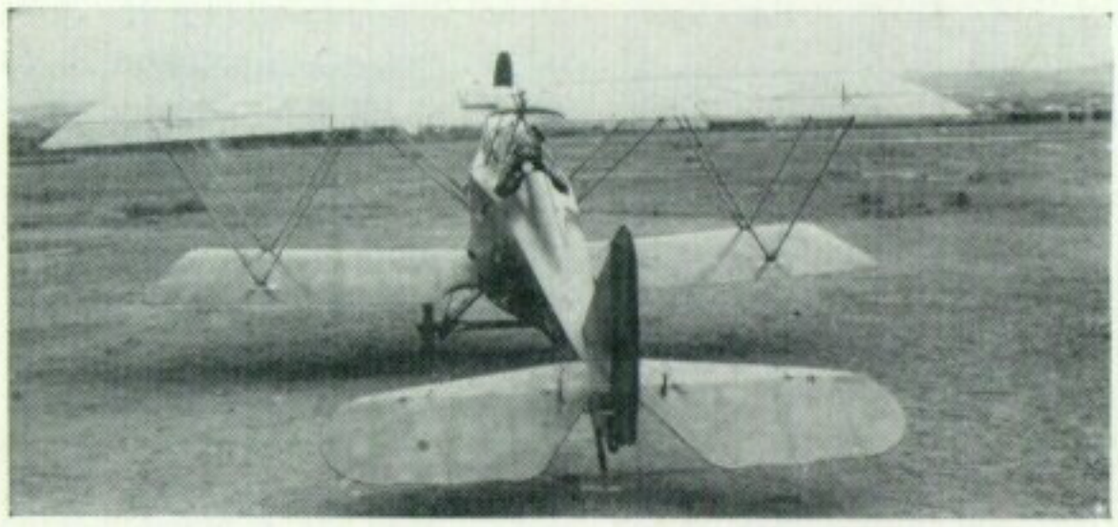
section, from rectangular in the nose to triangular behind the cockpit. The basic fuselage structure was a simple arrangement of wooden longerons and struts, to which a thin, flat plywood covering was applied. Upper longerons were conventional in form, but lower members were brought together just behind the cockpit and spliced to a single longeron which continued aft to the sternpost. At the expense of introducing a small amount of tail flexibility, a saving in weight and improved streamlining were thus achieved quite simply.

The upper fuselage deck forward of the cockpit consisted of a louvered sheet aluminium cowling, and the exhaust from the six-cylinder S.P.A. 6A in-line engine was led out through collectors and short stacks on the right-hand side. A large stamped-steel girder-type fitting bolted near the end of the fuselage served to stiffen the body and to carry the tailskid, which was a steel leaf-spring. The main undercarriage was a simple steel tube structure attached directly to the longerons; it carried a full axle sprung on rubber shock cord. The empennage had an unbalanced movable surface; the stabiliser could be adjusted on the ground depending on equipment installed and could be of wood or metal tube construction. Normal armament consisted of two Vickers guns mounted externally on either side of the cowling, just forward of the cockpit, and synchronised for firing through the propeller disc. Sometimes only one gun was carried; immediately behind the fuel tank, placed on the rear of the engine, were the two photo-reconnaissance cameras. Instrumentation usually comprised r.p.m.-counter, oil and fuel pressure gauge, starting magneto, tank pressure switch, air pump, carburettor control and trimming control. The engine, the reliable water-cooled S.P.A. 6A, developed 205 h.p. at 1,600 r.p.m. (220 h.p. on later series) and gave a comfortable maximum speed of 143 m.p.h.

DEVELOPMENT AND PRODUCTION

The S.V.A. was quickly ordered into quantity production, which commenced in the autumn of 1917; and by the close of the year 65 machines had been built. Apart from normal series production, *Cantiere 3* produced some experimental variants, principally to test various engine installations. Excellent results were obtained by the adoption of the Isotta-Fraschini I.F. V6 of 250 h.p.; speed in level flight reached 149 m.p.h., climb to 10,000 ft. was cut to seven minutes, and to 13,500 ft. a time of ten minutes was recorded. It will be noted that these performance figures are substantially better than those achieved by two much more widely-hailed aircraft of the period, the S.E.5a and the Fokker D.VII. These results were confirmed during the official test held at Taliedo, near Milan by the test-pilot Cattaneo; these led in the summer of 1918 to the standardisation of this engine for the two-seater version of the S.V.A. Another engine tested was the Lorraine-Dietrich of 200 h.p., but this project was abandoned owing to the negligible improvement over the S.P.A. powerplant. It was at about this time that a certain amount of licence production was established; among others, the AER factory at Orbassano produced a special variant with reduced span and wing area designated "S.V.A. 3 *ridotto*" (reduced). Some were issued in the spring of 1918 to second-line units

An S.V.A.4 on the Italian Front, summer 1918.
(Photo: via the author)



Rear and side views of the S.V.A.5: the Warren truss strut layout is very apparent, and invites immediate comparison with the Fiat biplane fighters of the 1930s.
(Photos: Col. Cesar Milani)

View of the S.V.A.10, showing deeper cowling of the I.F. V6 powerplant.
(Photo: Col. Cesar Milani)

defending cities in Northern Italy and a few were employed by reconnaissance units. By this time the exceptional qualities of the aircraft had once again been demonstrated on two flights, undertaken in August and September 1918 by the prototype, to ascertain the exact range capabilities of the S.V.A. The first flight was performed by Stoppani, and consisted of a round trip non-stop between Turin, Udine and Turin, a distance of some 600 miles. The second, with Lombard at the controls, was a non-stop flight along the route Malpensa-Foggia-Bologna, approximately 900 miles.

THE S.V.A. IN SERVICE

The S.V.A. began its strategic reconnaissance and light bombing duties in February 1918. Special *Sezioni* (sections) were formed and attached directly to each Army Headquarters. The first offensive sortie took place on 29th February, with the bombing of Bolzano and Innsbruck railway stations by four aircraft of the *1° Sezione*, carrying small bombs in place of their cameras; light bombs were slung on the fuselage sides in special clips. The 320-mile flight necessitated two crossings of the Alps, at 13,000 ft. outward bound and 16,000 ft. on the return trip. Over the target the S.V.A.s descended to 1,000 ft. and bombing and strafing runs over the buildings and crowded roads round the depot gained considerable results.

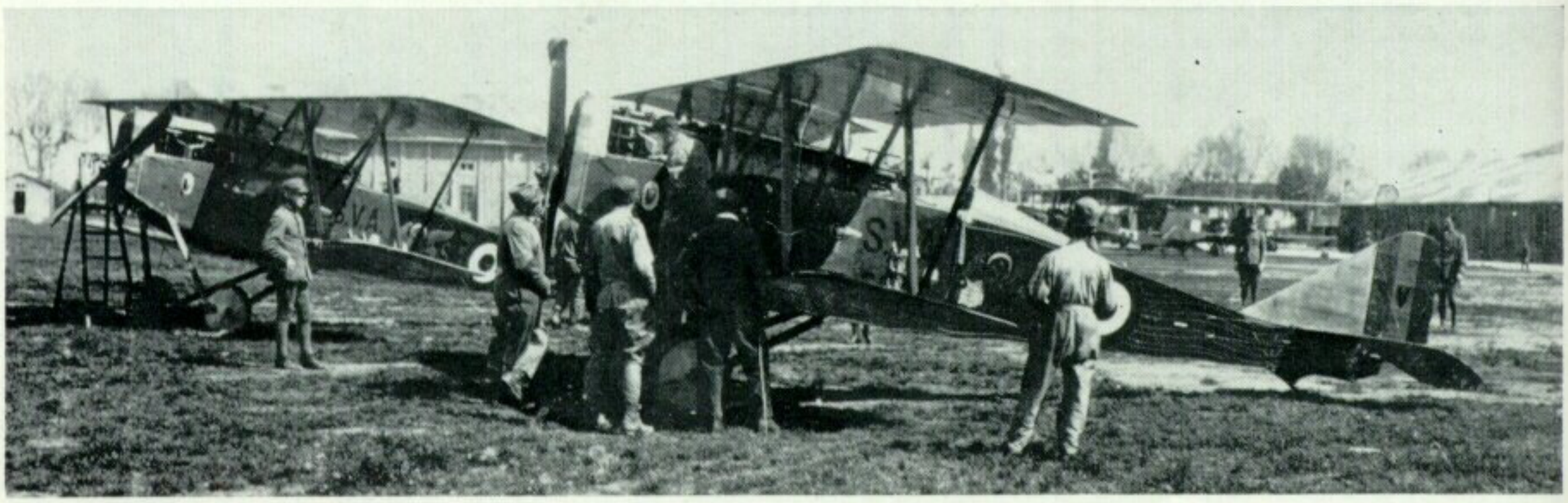
This mission is typical of the hard conditions on the Italian Front, where terrain was extremely rugged and sorties demanded long flights over enemy-held territory. The S.V.A. was thus particularly welcome, satisfying the long-standing requirement for a fast, long-range scout and light bomber relying on speed and its own armament for protection. The S.V.A. became the most precious medium for gathering intelligence during the preparation of the big offensives of the last six months of 1918, before the final collapse of the Austrian Army. Some of the more important sorties in the spring of 1918 were carried out by the newly-formed *87° Squadriglia*, which took

Captain Gino Allegri poses with an S.V.A. Capt. Allegri was one of the Italian Air Force's aces, and took part in the Vienna raid in August 1918. (Photo: via Col. Cesar Milani)

both its style of "*La Serenissima*" and its "Lion of St. Mark" emblem from the city of Venice; this unit was directly attached to Army Supreme Headquarters. One memorable flight was undertaken on 21st May 1918 by two S.V.A.5s of this squadron, piloted by Lts. A. Locatelli and F. Ferrarin. Taking off from Ghedi, near Brescia, they crossed the Alps, flew over the Rhine valley and Lake Constance, and secured many reconnaissance photographs of the important industrial towns of Bregenz, Lindau and Friedrichshafen. They returned to base after four hours in the air, covering 430 miles of almost exclusively enemy-held territory.

Other strategic missions performed in this period by the aircraft of the *87° Squadriglia* included flights over Cervignano, Monfalcone, Trieste, Adelsberg, Oberlaibach and Lubiana. Important rail depots were photographed almost daily, and a complete picture of enemy supply and reinforcement movements was built up in this way. Equally important were the flights

Interesting view of 87° Sq. *S.V.A.5s on a forward airfield. The aircraft in the foreground carries three bomb clips on the port side.*
(Photo: Col. Cesar Milani)



Isotta - Fraschini - engined S.V.A. on display in an Italian museum's aeronautical collection. The "Serenissima" *emblem is thought to be spurious in the case of this machine.*
(Photo: Col. Cesar Milani)

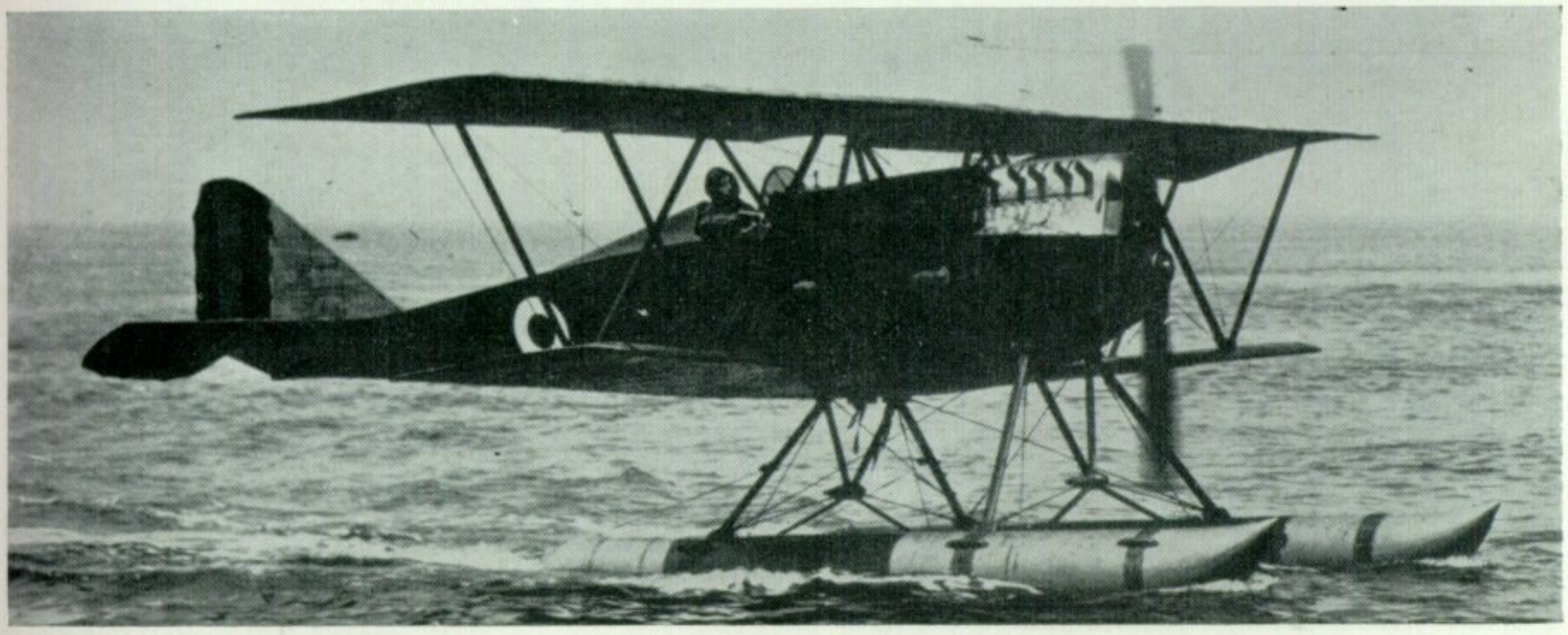
An S.V.A. in the (probably spurious) markings of the 87° Squadriglia: *note instrumentation and twin auxiliary petrol tanks on the upper wing centre-section.* (Photo: the author)

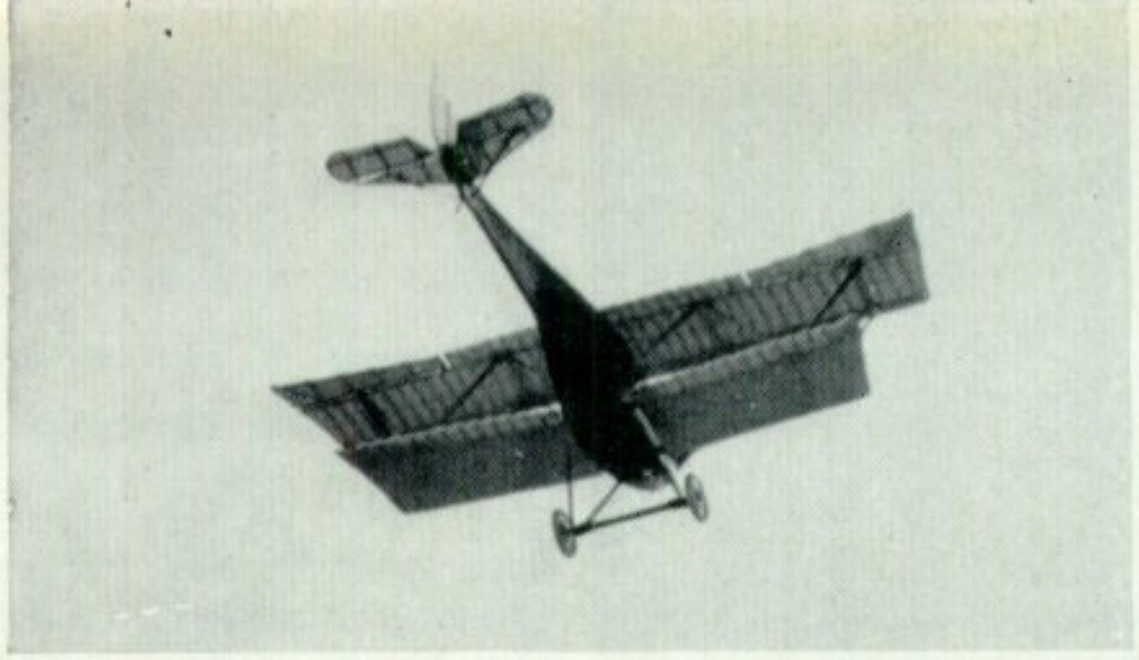
carried out by Capt. N. Palli over the Adriatic coast. Leaving Brindisi on 16th May, Palli flew over Skutari and Durazzo, taking photographs and returning to base after a flight of 430 miles, 200 of which were over the sea and 220 over enemy territory. On 1st June he took off from Jesi, flew over Zara, Sebeniko and Spalato, and returned after 5 hours 45 minutes in the air; during that time Palli had flown 600 miles, 200 miles over the sea and 250 miles over occupied territory. For a single-engined, single seat aircraft of that period this was a remarkable performance.

The High Command of the *Aviazione Militare* was not slow to recognise the excellence of the S.V.A. and production rapidly gained momentum. The 65 machines built in 1917 were followed in 1918 by 1,183, thus making the S.V.A. the second most numerous type built by the Italian industry during W.W.I. In the period 1915–18 the industry manufactured a grand total of 11,956 aircraft; 382 in 1915, 1,225 in 1916, 3,861 in 1917 and 6,488 in 1918. Besides the S.V.A. the types built in large numbers were the Pomilio P (1,616 a/c), the Nieuport 80 HP (739 a/c), the Hanriot HD.1 (831 a/c), the Caproni Ca 3 (250 a/c), the Macchi M.5 (344 a/c), the Saml (657 a/c), the Farman (1,105 a/c) and the Aviatik (568 a/c).

From experience gained during these first few months of operations and the confirmation of the great development potential of the airframe, it was possible to produce two derivations within a short period. Both were two-seaters; the S.V.A.9, powered by the well-tried S.P.A. 6A engine, was used primarily for training duties, while the S.V.A.10 was another reconnaissance and light bombing machine. Powered by the Isotta-Fraschini V6, the S.V.A.10 was armed with one fixed gun on the nose and a flexible Lewis gun in the rear cockpit, manned by the observer. Reconnaissance units played an important part during the bitter fighting on the Piave River in June 1918, giving the Italian Command a constant photographic record of the rapidly-changing situation at the Front. S.V.A.s were particularly active between 15th and 25th June. In this period, large quantities of propaganda leaflets were dropped on the Austrian lines, repeating on a large scale the tactics used in the offensive of 1916. The redoubtable Capt. Palli made an extremely hazardous reconnaissance flight at this time over the well-defended harbour of Pola, flying S.V.A. serial *1170*. Despite a heavy and continuous anti-aircraft barrage, Palli secured a magnificent series of photographs from 3,000 ft. which enabled seventy Italian aircraft to drop more than five tons of bombs on the targets indicated, during a raid some days later.

S.P.A.-engined S.V.A.5 on floats. About fifty of these machines were constructed by the Ansaldo plant at La Spezia.
(Photo: Col. Cesar Milani)





An unvarnished S.V.A.5 in flight. This illustration shows the unusual taper of the fuselage to good effect. (Photo: the author)

With the failure of the Austrian push, the way was open for the final stages of the campaign which led in November 1918 to the Armistice. It is relevant at this point to mention the strength of the opposing air forces on the Italian Front in mid-1918, and the importance of the part they played in the overall picture. The Italian air component disposed of a total of 553 machines on 10th June, on the eve of the Austrian offensive. Of these 221 were fighters, with 56 multi-engined bombers and 276 reconnaissance machines. Allied strength was completed by 80 British aircraft (54 fighters and 26 reconnaissance planes) and 20 French reconnaissance aircraft. The Austro-Hungarian total of 623 machines was broken down into 395 fighters, 30 bombers, and 198 reconnaissance planes. When the stubborn resistance of the Italian forces shattered the Austrian dream of victory at the end of June, the Imperial air forces were a broken weapon. This fact is borne out by an excerpt from an official dispatch of the Imperial and Royal Command of the Second Austrian Army, No. 1060:

> ". . . The superiority of the enemy aviation in numbers and quality is indisputable. The opinion of the High Command and of the troops on the enemy's pilots: brave, resolute and daring, with particular offensive determination. . . ."

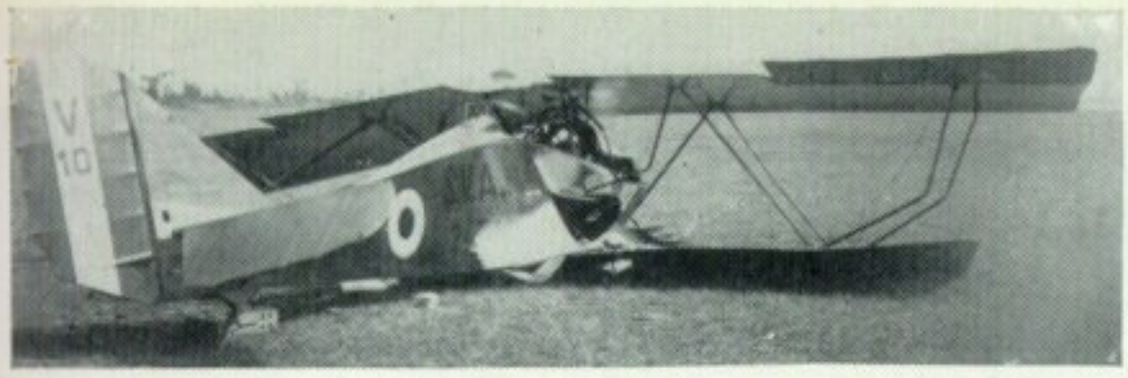
POET OVER VIENNA

Late on the morning of 9th August 1918, seven S.V.A.s appeared in the skies over Vienna, the "inviolable" capital of the Austro-Hungarian Empire. The machines, drawn from the *87° Squadriglia*, descended to 1,200 ft. over the streets of the capital and launched thousands of leaflets carrying a message prepared by the soldier-poet Gabriele D'Annunzio. It was a splendid gesture of confidence and strength, a presentiment of approaching victory; but apart from the symbolic and idealistic value of the raid, it represented a significant technical accomplishment. Conceived by D'Annunzio, supported by Supreme Headquarters, and meticulously planned by Capt. A. Masprone, squadron commander of "*La Serenissima*", the raid was originally intended to involve all fourteen of the squadron's aircraft. The poet was granted permission to fly on the actual mission, and to this end the prototype S.V.A.10, which was in the final stages of its evaluation programme, was assigned to carry him alongside the single-seat S.V.A.5s of the rest of the formation. Tragically, the S.V.A.10 was destroyed in a crash which killed the pilot, Capt. L. Bourlot, who had been assigned to carry D'Annunzio on the raid. A second two-seater was hurriedly prepared, similar to the S.V.A.9 with increased fuel capacity, in which the poet could be uncomfortably seated above the auxiliary fuel tank forward of the cockpit.

Bad weather caused the raid to be scrubbed on 2nd August and again on the 8th; but finally on the 9th, at 5.50 a.m., eleven S.V.A.s took off. The pilots were the famous Palli (carrying D'Annunzio in the two-seater), Locatelli, Allegri, F. Ferrarin, Censi, Granzarolo, Masprone (the C.O.), Contratti, Sarti, Finzi and Massoni. In the first stages of the flight Masprone was forced back by engine trouble, followed by Massoni and Ferrarin. Over Wiener-Neustadt Sarti got into difficulties and was forced to land; he was taken prisoner but managed to destroy his machine. The seven survivors flew on to Vienna, and circled over the city for about 30 minutes. At 12.40 p.m., after an incident-free return journey, the formation landed at their home base of S. Pelagio having flown more than 625 miles, 500 of which were over enemy territory.

Some Austrian sources attempted to dismiss the raid as without significance, asserting that leaflets were carried instead of bombs because the aircraft flew with minimum payload at the limit of their range; but it is

An S.V.A.10 in post-war military insignia. (Photo: the author)



Two views of a wrecked S.V.A.10 at Capua in September 1923. (Photos: Col. Cesar Milani)

self-evident that each machine could have carried bombs equivalent to the weight of D'Annunzio, if this had been the purpose of the raid.

The final bitter struggles of the war on the Italian Front were fought in the last days of October 1918, and led to the complete collapse of the Imperial forces. After reconnaissance activities in the preparatory stages, the S.V.A.s intervened directly on the battlefield, strafing troop concentrations and communications centres close behind the lines. Depots were attacked at Sacile on 24th October, columns and trains at Valsugana on the 25th and 26th; sorties were carried out over the Piave on the 27th; Val Moreno, Fretta and Revine were bombed on the 28th; and troops and airfields were strafed on the 29th. In the following days these actions were frequently repeated, a series of harrying assaults on an already-defeated army.

The final battles showed that the S.V.A. had reached complete operational maturity; and in the last stages of the action the Army units were joined by the *1° Squadriglia Navale Aerosiluranti* (First Naval Torpedo-Bomber Squadron), which was based at S. Nicolo del Lido near Venice. The *1° Squ. Nav. A.S.* "*S. Marco*" was created to test the potential of aerial torpedo attacks on surface vessels, and operated a mixed strength of Caproni Ca 3s, S.V.A.s, Sia 9bs and later the improved 600-h.p. Capronis.

No study of the S.V.A. in wartime should close without mention of the seaplane version. Built in 1918 by Ansaldo's *Cantiere 4* at La Spezia, it derived directly from the standard S.V.A. and was fitted with two cylindrical floats. These were fitted with characteristic hydrovanes; and the guiding light in the project was Ing. Guidoni. Some fifty machines were built, and were employed for coastal reconnaissance and defence by some naval bases.

THE S.V.A. IN PEACETIME

The sleek Ansaldo-built scout followed its wartime success with no less exceptional flights in the shadowy years of demobilisation. In 1919 D'Annunzio planned, under the auspices of the General Directory of Aeronautics, a flight from Rome to Tokyo by a squadron of eleven aircraft, four multi-engined Capronis and seven S.V.A.s. The 11,000-mile route passed through Salonika, Baghdad, Dassora, Karachi, New Delhi, Calcutta, Rangoon, Bangkok, Hanoi, Canton,

56° Squadriglia *S.V.A.s at Mirafiori airfield in 1923. Note SPADs and Hanriots in background.* (Photo: Col. Cesar Milani)

Civil S.V.A.10s, photographed in 1924. (Photo: Col. Cesar Milani)

An Isotta-Fraschini-engined S.V.A.5 during early post-war airmail experiments. The bags were strapped to the fuselage upper decking, with severe results to the pilot's forward vision! (Photo: G. Apostolo via the author)

Shanghai, Peking, and Seoul. The Capronis, which left Rome on 2nd February 1920, abandoned the attempt in the Middle East; of the S.V.A.s only the two piloted by A. Ferrarin and G. Masiero reached Tokyo. Engine trouble forced Masiero to ship his aircraft from Canton to Shanghai and he arrived in Tokyo one hour after Ferrarin, who covered the route in 109 flying hours at an average speed of 100 m.p.h.

The S.V.A. was the first aircraft to fly over the Cordillera of the Andes; during a visit to Argentina in 1920 by an official Italian mission, an S.V.A. piloted by Locatelli reached Santiago in Chile, blazing the trail for future civil airliners. The story of the S.V.A.'s sporting exploits is a long one; it is sufficient to record here the victory in the 1919 Circuit of Brescia of a special version, appropriately named "Brescia", which featured a reduced surface and modified interplane strut layout. Some interesting experiments were carried out in 1919 with mail-carrying S.V.A.s; and a number of machines were exported during the 1920s. The advanced training school at El Palomar, Argentina, used several S.V.A.s for a long period; some were used by the Military Aviation of the Latvian Republic, by the Peruvian Army at Las Palmas, and one by the Military Flying School in Ecuador. Several machines appeared on the American civil register and were used for racing. The American Air Attache in Rome used an S.V.A. in 1922: and the sleek Ansaldo gave faithful service to the Italian air forces well into the 1930s, being progressively relegated to training schools. In the early post-W.W.I years S.V.A.s participated in the re-conquest of Libya and soldiered on for many years in Eritrea and Somaliland. In Italy many civil flying schools and clubs employed both single and multi-seat variants for training and joy-riding; prominent among these was the *Compagnia Nazionale Aeronautica* of Montecelio, Rome, which owned several machines in 1923.

S.V.A.5—TECHNICAL SPECIFICATIONS

(Data from Technical Manual issued by Company Gio. Ansaldo in 1918)

Powerplant: One S.P.A. Type 6A, six cylinders in line, water cooled, 205–220 h.p.
Dimensions: Wing span (upper) 29·855 ft. Length 26·575 ft. Height 10·498 ft. L.g. track 6·561 ft.
Weights: Empty 1,500 lb. Useful load 495 lb. Standard fuel capacity 320 lb.
Performances: Maximum speed 143 m.p.h. Endurance (normal) 3 hours. Climb to: 3,280 ft. 2 min. 40 sec.; 6,560 ft. 6 min.; 9,840 ft. 10 min.; 13,120 ft. 12 min. 50 sec.; 16,400 ft. 18 min.; 19,685 ft. 25 min. Ultimate loading coefficient: 10.
Armament: Two Vickers m.g., synchronised.

OTHER S.V.A. VERSIONS—SPECIFICATIONS

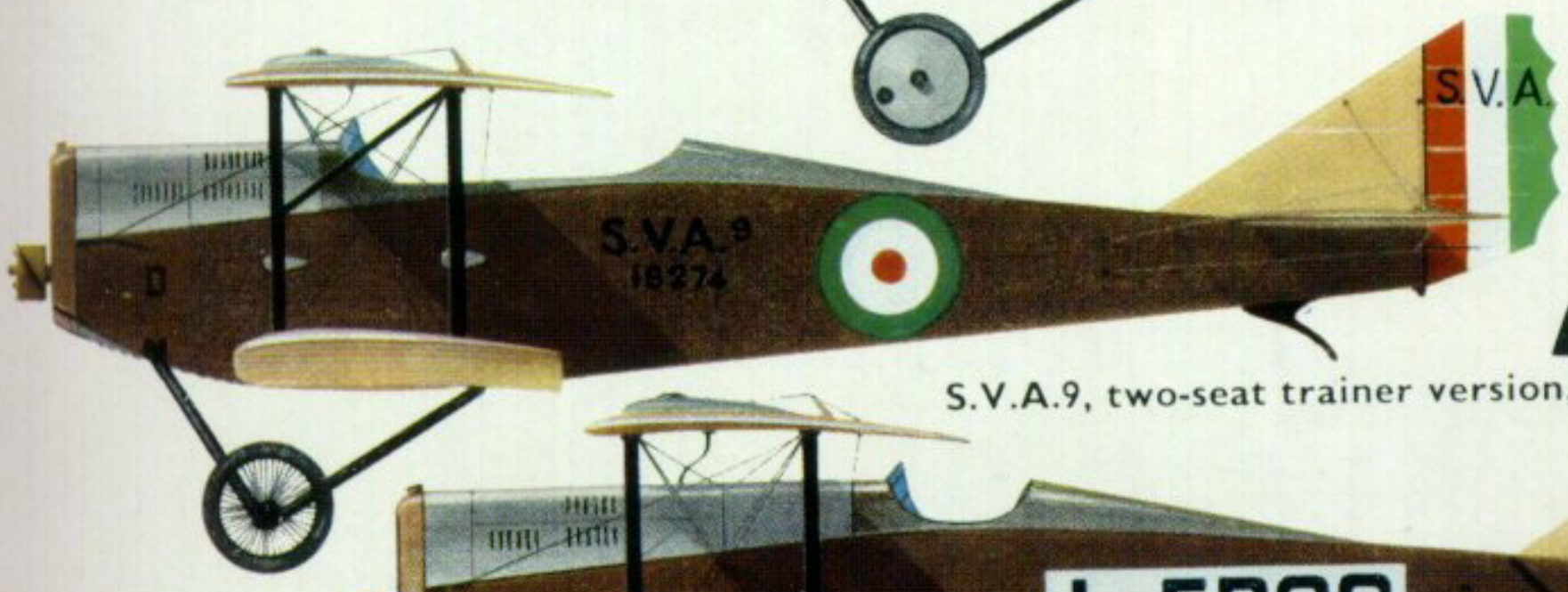
Specification	S.V.A.4	S.V.A.3 rid.	S.V.A.5 I.F.	S.V.A.9	S.V.A.10	S.V.A.10 I.F.	S.V.A. Lorraine
Crew	1	1	1	2	2	2	1
Engine	S.P.A. 6A	S.P.A. 6A	I.F. V6	S.P.A. 6	S.P.A. 6	I.F. V6	Lorraine-Dietrich
Wing span (ft.) ...	28·855	25·426	29·855	29·855	29·855	29·855	29·855
Length (ft.) ...	26·575	26·575	26·575	26·575	26·723	26·575	26·575
Wing area (sq. ft.)	289·8	237·0	289·8	289·8	289·8	289·8	289·8
Gross weight (lb.)	2,150	1,965	2,150	2,180	2,340	2,365	1,940
Empty weight (lb.)	1,545	1,470	1,470	1,525	1,610	1,610	1,415
Max. speed (m.p.h.)	134	140	147	137	131	134	134
Climb to 9,840 ft.	12′	11′ 30″	8′	14′	11′	12′	10′
Range (hours) ...	3–4	3	3	3	3–5	3–5	3
Armament (guns)	2	2	2	–	2	2	–

1st Sezione Ricognizione S.V.A.

S.V.A.5, 1st Sezione Ricognizione S.V.A., 3rd Gruppo Aeroplani of the 1st Armata, Ganfardine, Italy, June 1918.

S.V.A.10, standard post-war finish with long range belly tank.

S.V.A.10, 89th Squadriglia Ricognizione, 1926.



S.V.A.9, two-seat trainer version, 1918.

Coat of Arms of the House of Savoy, rudder marking

S.V.A.5, Compagnia Nazionale Aeronautica, Montecelio, Italy, 1923.

S.V.A. "Brescia", winner of the 1919 Race held at Brescia, Italy.

I.S.V.A. Seaplane version of the S.V.A.5, La Spezia, Italy, 1918. The floats are of circular section, also equipped with hydrovanes.

A civil S.V.A.10, registered I-BACU, photographed in 1919. (Photo: the author)

Prototype S.V.A.10, in which it was intended that D'Annunzio should fly on the Vienna raid. Captain Bourlot's fatal crash in this machine led to the hasty modification of a single-seater for the purpose. (Photo: Bignozzi, via Col. Cesar Milani)

UNITS OF THE ITALIAN "AERONAUTICA MILITARE" WITH S.V.A. AIRCRAFT IN W.W.I

Unit	Group	Date and Location (Italy)
1° Sezione Ric./Bomb.	III	15th June 1918—Ganfardine
	III	15th June 1918—Ganfardine
2° Sezione Ric./Bomb.	VII	15th June 1918—Poianella
	XXIV	20th Oct. 1918—Poianella
3° Sezione Ric./Bomb.	II	15th June 1918—Isola di Carturo
4° Sezione Ric./Bomb.	XV	15th June 1918—S. Luca
5° Sezione Ric./Bomb.	I	15th June 1918—Fossalunga
	I	20th Oct. 1918—Marcon
6° Sezione Ric./Bomb.	IX	15th June 1918—Castenedolo
	IX	20th Oct. 1918—Castenedolo
87° Sq. Ric./Bomb.	—	15th June 1918—S. Pelagio
	—	20th Oct. 1918—S. Pelagio
89° Sq. Ric./Bomb.	XXII	20th Oct. 1918—Busiago
Spec. "*Sezione*" Two-seaters	—	20th Oct. 1918—S. Pelagio
Spec. "*Sezione*" Two-seaters	—	20th Oct. 1918—Ca' Tessera
56° Sq. Ric./Bomb.	XV	20th Oct. 1918—Fossalunga
57° Sq. Ric./Bomb.	—	20th Oct. 1918—Isola di Cartugo
*111° Sq. Ric.**	XXI	20th Oct. 1918—Sakulevo (Macedonia)
*116° Sq. Ric.**	VIII	20th Oct. 1918—Valona (Albania)

*Mixed equipment with S.P.3.

POST-WAR (1923) UNITS OF THE "REGIA AERONAUTICA"

27° Sq. S.V.A.	*1° Wing*	Centocelle (Italy)
32° Sq. S.V.A.	*15° Wing*	Padova (Italy)
56° Sq. S.V.A.	*4° Wing*	Mirafiori (Italy)
87° Sq. S.V.A.	*15° Wing*	Padova (Italy)
89° Sq. S.V.A.	—	Mellaha (Libya)
104° Sq. S.V.A.	—	Benghazi (Libya)